

Email Newsletter

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"We shape our buildings;
 Thereafter, they shape us."
 - Sir Winston Churchill



ASK the Expert?

Q: What are two toxic microbes difficult to control at healthcare facilities?

A: Gram-negative bacteria in sterile pharmacy preparations (think of endotoxin);

B: Legionella biofilms in potable water systems and cooling towers (think stagnate water in pipes).



US Pharmacia

Q: What are significant USP 797 changes scheduled to take effect November 1, 2023 in sterile compounding.

A: The new standard mandates ongoing training for lab personnel and increased environmental monitoring.

Increased Glove Finger Sampling to validate sterile handling competency - Every 6 months for Cat 1 & 2 CSPs and every 3 months for Cat 3 CSPs.



Increased Viable Air testing to establish a baseline, then every 6 months for Cat 1 & 2 and every 30 days for Cat 3 Beyond Use Dates (BUDs)

Viable Air Testing should be done under dynamic conditions and during compounding at locations near the (DCA). Volume of 1000 L required.

Environment of Care (EOC)-Part 2

Facilities and Infection Control professionals should be aware of how to select the proper respirator. In July 2021, OSHA mandated protection under §1910.502-Healthcare to prevent worker COVID-19 infection. Remember, up to 50% of workers self-infect during de-garbing - most by either inhalation or dermal contact. The proper way to assign respiratory protection is the term *Maximum Use Concentration* (MUC). The MUC requires measurement of airborne toxic microbes or chemicals within treatment rooms (eg. AIIR) - a room air test required. You can calculate a world class Maximum Use Concentration (MUC) yourself using the Assigned Protection Factor (APF) from Table 1 below. Use the exposure limit of 10 microbes of viable *M. tuberculosis*. See pg. 8 link: <https://www.irsst.qc.ca/media/documents/pubirsst/rg-501.pdf>.



An international method you can try is the algorithm from IRSST, Quebec, Canada** using the link below: <https://www.irsst.qc.ca/bioaerosol/etape1.aspx>

**The Institut de recherche Robert-Sauvé en santé et en sécurité du travail (IRSST), est. Québec since 1980

$$MUC = \frac{\text{Assigned Protect Factor} = 50}{\text{Infectious Dose} = 10 \text{ microbes}} = 5 \text{ air microbes}$$

Table 1: Assigned Protection Factors^a

Type of Respirator ^{1,2}	Quarter mask	Half mask	Full facepiece
1. Air-Purifying Respirator	5	10 ³	50
2. Powered Air-Purifying Respirator (PAPR)	—	50	1,000
3. Supplied-Air Respirator (SAR) or Airline Respirator			
• Demand mode	—	10	50
• Continuous flow mode	—	50	1,000
• Pressure-demand or other positive-pressure mode	—	50	1,000
4. Self-Contained Breathing Apparatus (SCBA)			
• Demand mode	—	10	50
• Pressure-demand or other positive-pressure mode (e.g., open/closed circuit)	—	—	10,000



Photo credit to EMSL Microbiology Laboratories, October 2022. Beyond Code Minimum - *Aspergillus Nosocomial Culture & Vancomycin Resistant Bacteria*.